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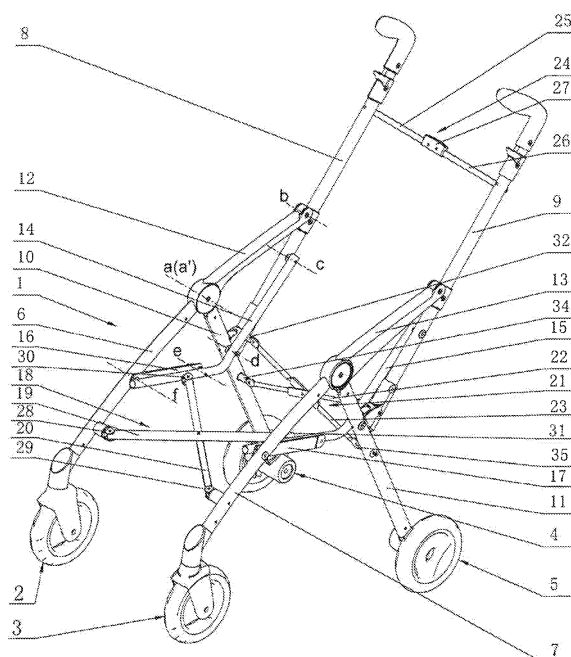
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(54) **BABY BUGGY**

(57) A baby buggy comprising a buggy frame (1), wherein the buggy frame (1) comprises a first front wheel bracket (6), a second front wheel bracket (7), a first rear wheel bracket (4), a second rear wheel bracket (5), a first hand rail (12), a second hand rail (13), a first push rod (8) rotatably connected to the back section of the first push rod (12), a second hand rail (9) rotatably connected to the back section of the second hand rail (13), a first swing rod (14) respectively rotatably connected to the

first push rod (8) and the first rear wheel bracket (4), a second swing rod (15) respectively rotatably connected to the second push rod (9) and the second rear wheel bracket (5), a first connecting rod (16) disposed between the first front wheel bracket (6) and the first swing rod (14), a second connecting rod (17) disposed between the second front wheel bracket (7) and the second swing rod (15), an X-shaped front supporting frame (18) disposed between the two front wheel brackets and the two wing rods, and a rear supporting frame (21).



Description

Field of the Invention

[0001] The present invention relates to a foldable baby buggy. 5

Description of the Related Art

[0002] To improve the portability of the foldable baby buggy of the prior art, generally, it is desired to minimize the folded volume thereof. Owing to the relative location between the rods of the buggy frame is not appropriately arranged, some of the buggy frames meet the demand of low folded volume, while the push rod can not be straight up and the front and rear wheels can not support the buggy, difficult for the users to take. The others achieve to support themselves after folded; however, they generally possess a high folded volume, inconvenient for transportation. 10 15 20

Summary of the invention

[0003] The object of the present invention is to provide such a baby buggy that the upper end of the push rod remains straight up and the front and rear wheels support the buggy frame, and that possesses a low folded volume after the buggy frame is folded. 25

[0004] In order to obtain one or more of these objects, the invention provides: 30

a baby buggy, comprising a buggy frame provided with an unfolded position and a folded position, front wheel assemblies, rear wheel assemblies, and a locking mechanism for locking the buggy frame in the unfolded position. The locking mechanism is generally disposed between two rods as long as it could lock the buggy frame, without the limitation to which two rods. The buggy frame comprises: 35
a first front wheel bracket, a second front wheel bracket, a first rear wheel bracket and a second rear wheel bracket; 40
a first hand rail, wherein, two components out of the upper section of the first front wheel bracket, the upper section of the first rear wheel bracket and the front section of the first hand rail are rotatably connected about the axis a, the other component is rotatably connected to one of the two rotatably connected components about the axis a'. Wherein the axis a and a' could be the same one axis, as well as the two axes parallel with each other; 50
a second hand rail, wherein, two components out of the upper section of the second front wheel bracket, the upper section of the second rear wheel bracket and the front section of the second hand rail are rotatably connected about the axis a, the other component is rotatably connected to one of the two rotatably connected components about the axis a'. 55

Wherein the axis a and a' could be one same axis, as well as two axes parallel with each other;
a first push rod, which is rotatably connected to the back section of the first hand rail;
a second push rod, which is rotatably connected to the back section of the second hand rail;
wherein, the axis a and a' are parallel with each other.

[0005] The buggy frame further comprises:

a first swing rod, the back section of which is rotatably connected to the first push rod, and, the approximate central section of which is rotatably connected to the first rear wheel bracket;
a second swing rod, the back section of which is rotatably connected to the second push rod, and, the approximate ventral section of which is rotatably connected to the second rear wheel bracket;
a first connecting rod, the front end of which is rotatably connected to the first front wheel bracket, and, the back end of which is rotatably connected to the first swing rod;
a second connecting rod, the front end of which is rotatably connected to the second front wheel bracket, and, the back end of which is rotatably connected to the second swing rod;
a foldable front supporting frame for reducing the lateral dimension of the buggy frame, comprising a first supporting rod and a second supporting rod that intersect and rotatably connect with each other at the intersection joint. One end of the first supporting rod is rotatably arranged to the lower section of the first front wheel bracket through a first adapter, the other end to the second swing rod or the second connecting rod through a fourth adapter. One end of the second supporting rod is rotatably arranged to the second front wheel bracket through a second adapter, the other end to the first swing rod or the first connecting rod through a third adapter. The function of the front supporting frame is for the buggy frame to present a high lateral rigidity when in a unfolded position, not affecting the folding of the buggy frame; and
a foldable rear supporting frame for reducing the lateral dimension of the buggy frame, which could either be disposed between the first rear wheel bracket, the second rear wheel bracket, the first push rod, and the second push rod, or be disposed between the first rear wheel bracket, the second rear wheel bracket, the first swing rod, and the second swing rod, or simply between the first rear wheel bracket and the second rear wheel bracket. The structure of the rear supporting frame is not limited as long as it presents a high lateral rigidity when the buggy frame in a unfolded position and not affects the folding of the buggy frame.

[0006] The lateral direction of the buggy frame is ac-

cordant with the extending direction of the axis a. To fold the buggy frame, the locking mechanism should first be unlocked, and then the first push rod and the second push rod can be pressed downwardly at the same time, While the operation of the two push rods induces rotation of the first swing rod and the second swing rod, i.e., the back sections of the first swing rod and the second swing rod respectively move downwardly, while the front sections of the first swing rod and the second swing rod respectively move upwardly, leading to the back ends of the first connecting rod and the second connecting rod moving upwardly, thus further resulting in the first front wheel bracket moves towards the first rear wheel bracket, and the second front wheel bracket moves towards the second rear wheel bracket, consequently inducing the folding of the front supporting frame and the rear supporting frame. Finally, the vertical dimension, the longitudinal dimension and the lateral dimension of the buggy frame decrease, and the buggy frame is in a folded status.

[0007] A foldable cross piece for reducing the lateral dimension of the buggy frame is disposed between the first push rod and the second push rod. One outer end of the cross piece is rotatably connected to the upper section of the first push rod, the other outer end to the upper section of the second push rod. The cross piece consists of two rods with the inner ends rotatably connected. Alternatively, the cross piece can also consist of three rods successively rotatably connected.

[0008] The rear supporting frame comprises a third supporting rod and a fourth supporting rod that intersect and rotatably connect with each other at the intersection joint. One end of the third supporting rod is rotatably arranged to the first rear wheel bracket through a seventh adapter, the other end to the second swing rod or the lower section of the second push rod through a sixth adapter. One end of the fourth supporting rod is rotatably arranged to the second rear wheel bracket through an eighth adapter, the other end to the first swing rod or the lower section of the first push rod through a fifth adapter.

[0009] One end of the third supporting rod is rotatably connected to the approximate central section of the first rear wheel bracket. One end of the fourth supporting rod is rotatably connected to the approximate central section of the second rear wheel bracket.

[0010] The rotary connection joint of the first connecting rod and the first front wheel bracket is disposed above the rotary arrangement joint of the first supporting rod and the first front wheel bracket. The rotary connection joint of the second connecting rod and the second front wheel bracket is disposed above the rotary arrangement joint of the second supporting rod and the second front wheel bracket.

[0011] The first swing rod extends forwards from the rotary connection joint of the first swing rod and the first connecting rod forming a first seat rod. The second swing rod extends forwards from the rotary connection joint of the second swing rod and the second connecting rod

forming a second seat rod. Preferably, the first connecting rod and the second connecting rod could also serve as the seat rods.

[0012] The rotary connection joint of the first connecting rod and the first swing rod is positioned to a location that lies between the rotary arrangement joint of the second supporting rod and the first swing rod and the rotary connection joint of the first rear wheel bracket and the first swing rod. The rotary connection joint of the second connecting rod and the second swing rod is positioned to a location that lies between the rotary arrangement joint of the first supporting rod and the second swing rod and the rotary connection joint of the second rear wheel bracket and the second swing rod.

[0013] The rotary connection joint of the first rear wheel bracket and the first swing rod is positioned to a location that lies between the rotary connection joint of the first connecting rod and the first swing rod and that of the first push rod and the first swing rod. The rotary connection joint of the second rear wheel bracket and the second swing rod is positioned to a location that lies between the rotary connection joint of the second connecting rod and the second swing rod and that of the second push rod and the second swing rod.

[0014] The front end of the first connecting rod is rotatably connected to the approximate central section of the first front wheel bracket. The front end of the second connecting rod is rotatably connected to the approximate central section of the second front wheel bracket.

[0015] Preferably, the axis a is coincide with the axis a'.

[0016] The present invention has the advantages that, the upper end of the push rod remains straight up and the front and rear wheels support the buggy frame, namely, the buggy frame can support themselves after folded owing to the appropriate relative location between the rods of the buggy frame, and the folded buggy is also convenient for the users to take and for transportation owing to the low folded volume after the buggy frame folded.

Brief description of the drawings

[0017]

Fig. 1 is a perspective view of the preferred embodiment according to the present invention in an unfolded status.

Fig. 2 is a side view of the preferred embodiment according to the present invention in an unfolded status.

Fig. 3 is a perspective view of the preferred embodiment according to the present invention in a folded status.

Fig. 4 is a side view of the preferred embodiment according to the present invention in a folded status.

Detailed description of the preferred embodiments

[0018] As shown in Figs. 1 to 4, a baby buggy, comprises a buggy frame 1 provided with an unfolded position and a folded position, front wheel assemblies, rear wheel assemblies, and a locking mechanism for locking the buggy frame in the unfolded position. The buggy frame 1 comprises

a first front wheel bracket 6, the lower end of which is provided with first front wheel assemblies 2;

a second front wheel bracket 7, the lower end of which is provided with second front wheel assemblies 3;

a first rear wheel bracket 10, the lower section of which is provided with first rear wheel assemblies 4;

a second rear wheel bracket 11, the lower section of which is provided with second rear wheel assemblies 5; wherein, the upper end of the first front wheel bracket 6, the upper end of the first rear wheel bracket 10 and the front section of a first hand rail 12 are rotatably and coaxially connected; and the second front wheel bracket 7, the upper end of the second rear wheel bracket 11 and the front section of the second hand rail 13 are rotatably and coaxially connected;

a first push rod 8, which is rotatably connected to the back section of the first hand rail 12 about the axis b, and, between the lower end of which and the first rear wheel bracket 10 arranges a locking mechanism probably comprising a spring tongue arranged at the lower end of the first push rod 8 and a locking slot grooved on the first rear wheel bracket 10, with the spring tongue inserting into the locking slot when locked and departing from the locking slot when unlocked;

a second push rod 9, which is rotatably connected to the back section of the second hand rail 13 about the axis b, and similarly, between the lower end of which and the second rear wheel bracket 11 arranges a locking mechanism probably comprising a spring tongue arranged at the lower end of the second push rod 9 and a locking slot grooved on the second rear wheel bracket 11, with the spring tongue inserting into the locking slot when locked and departing from the locking slot when unlocked;

a first swing rod 14, the back section of which is rotatably connected to the first push rod 8 about the axis c, and, the approximate central section of which is rotatably connected to the first rear wheel bracket 10 about the axis d;

a second swing rod 15, the back sections of which is rotatably connected to the second push rod 9 about the axis c, and, the approximate central section of which is rotatably connected to the second rear wheel bracket 11 about the axis d;

a first connecting rod 16, the front end of which is rotatably connected to the first front wheel bracket 6 about the axis f, and, the back end of which is rotatably connected to the first swing rod 14 about the axis e;

a second connecting rod 17, the front end of which is rotatably connected to the second front wheel bracket

7 about the axis f, and, the back end of which is rotatably connected to the second swing rod 15 about the axis e; wherein the axes a, b, c, d, e and f are parallel to each other.

[0019] As shown in Fig. 1 and Fig. 3, the foldable front supporting frame 18 for reducing the lateral dimension of the buggy frame comprises a first supporting rod 19 and a second supporting rod 20 that intersect and rotatably connect with each other at the intersection joint. One end of the first supporting rod 19 is rotatably arranged to the lower section of the first front wheel bracket 6 through a first adapter 28, the other end to the second swing rod 15 through a fourth adapter 31. One end of the second supporting rod 20 is rotatably arranged to the second front wheel bracket 7 through a second adapter 29, the other end to the first swing rod 14 through a third adapter 30.

[0020] As shown in Fig. 1 and Fig. 2, the foldable rear supporting frame 21 for reducing the lateral dimension of the buggy frame comprises a third supporting rod 22 and a fourth supporting rod 23 that intersect and rotatably connect with each other at the intersection joint. One end of the third supporting rod 22 is rotatably arranged to the first rear wheel bracket 10 through a seventh adapter 34, the other end to the lower end of the second push rod 9 through a sixth adapter 33. One end of the fourth supporting rod 23 is rotatably arranged to the second rear wheel bracket 11 through an eighth adapter 35, the other end to the lower end of the first push rod 8 through a fifth adapter 32. The rear supporting frame could also simply be arranged between the first rear wheel bracket 10 and the second rear wheel bracket 11. For instance, the rear supporting frame comprises a first rod and a second rod such that one disposes above the other with the outer ends respectively rotatably connected to the first rear wheel bracket 10, a third rod and a fourth rod such that one disposes above the other with the outer ends respectively rotatably connected to the second rear wheel bracket 11, and a fifth rod. The inner ends of the first rod and the third rod are respectively rotatably connected to the upper section of the fifth rod. The inner ends of the second rod and the fourth rod are respectively rotatably connected to the lower section of the fifth rod. A locking mechanism is arranged on the rear supporting frame for locking the rear supporting frame.

[0021] A foldable cross piece 24 is arranged between the first push rod 8 and the second push rod 9, one outer end of which is rotatably connected to the upper section of the first push rod 8, the other to the upper section of the second push rod 9.

[0022] The cross piece 24 comprises a first cross rod 25 with the outer end rotatably connected to the upper section of the first push rod 8, a second cross rod 26 with the outer end rotatably connected to the upper section of the second push rod 9, and a cross rod connector 27. The inner end of the first cross rod 25 is rotatably connected to one end of the cross rod connector 27, and the inner end of the second cross rod 26 to the other end of

the cross rod connector 27.

[0023] The rotary connection joint of the first connecting rod 16 and the first front wheel bracket 6 is disposed above the rotary arrangement joint of the first supporting rod 19 and the first front wheel bracket 6. The rotary connection joint of the second connecting rod 17 and the second front wheel bracket 7 is disposed above the rotary arrangement joint of the second supporting rod 20 and the second front wheel bracket 7.

[0024] The first swing rod 14 extends forwards from the rotary connection joint of the first swing rod 14 and the first connecting rod 16 forming a first seat rod. The second swing rod 15 extends forwards from the rotary connection joint of the second swing rod 15 and the second connecting rod 17 forming a second seat rod.

[0025] The rotary connection joint of the first connecting rod 16 and the first swing rod 14 is positioned to a location that lies between the rotary arrangement joint of the second supporting rod 20 and the first swing rod 14 and the rotary connection joint of the first rear wheel bracket 10 and the first swing rod 14. The rotary connection joint of the second connecting rod 17 and the second swing rod 15 is positioned to a location that lies between the rotary arrangement joint of the first supporting rod 19 and the second swing rod 15 and the rotary connection joint of the second rear wheel bracket 11 and the second swing rod 15.

[0026] The rotary connection joint of the first rear wheel bracket 10 and the first swing rod 14 is positioned to a location that lies between the rotary connection joint of the first connecting rod 16 and the first swing rod 14 and that of the first push rod 8 and the first swing rod 14. The rotary connection joint of the second rear wheel bracket 11 and second swing rod 15 is positioned to a location that lies between the rotary connection joint of the second connecting rod 17 and the second swing rod 15 and that of the second push rod 9 and the second swing rod 15.

[0027] The front end of the first connecting rod 16 is rotatably connected to the approximate central section of the first front wheel bracket 6. The front end of the second connecting rod 17 is rotatably connected to the approximate central section of the second front wheel bracket 7.

[0028] One end of the third supporting rod 22 is rotatably connected to the approximate central section of the first rear wheel bracket 10. One end of the fourth supporting rod 23 is rotatably connected to the approximate central section of the second rear wheel bracket 11.

Claims

1. A baby buggy, comprising a buggy frame (1) provided with an unfolded position and a folded position, front wheel assemblies, rear wheel assemblies, and a locking mechanism for locking said buggy frame in the unfolded position, said buggy frame (1) comprising:

a first front wheel bracket (6), a second front wheel bracket (7), a first rear wheel bracket (10) and a second rear wheel bracket (11);

a first hand rail (12), two components out of the upper section of said first front wheel bracket (6), the upper section of said first rear wheel bracket (10) and the front section of said first hand rail (12) being rotatably connected about the axis a, the other component being rotatably connected to one of said two rotatably connected components about the axis a';

a second hand rail (13), two components out of the upper section of said second front wheel bracket (7), the upper section of said second rear wheel bracket (11) and the front section of said second hand rail (13) being rotatably connected about the axis a, the other component being rotatably connected to one of said two rotatably connected components about the axis a';

a first push rod (8), which is rotatably connected to the back section of said first hand rail (12); a second push rod (9), which is rotatably connected to the back section of said second hand rail (13);

said axis a and a' being parallel with each other, wherein, said buggy frame further comprises:

a first swing rod (14), the back section of which is rotatably connected to said first push rod (8), and, the approximate central section of which is rotatably connected to said first rear wheel bracket (10);

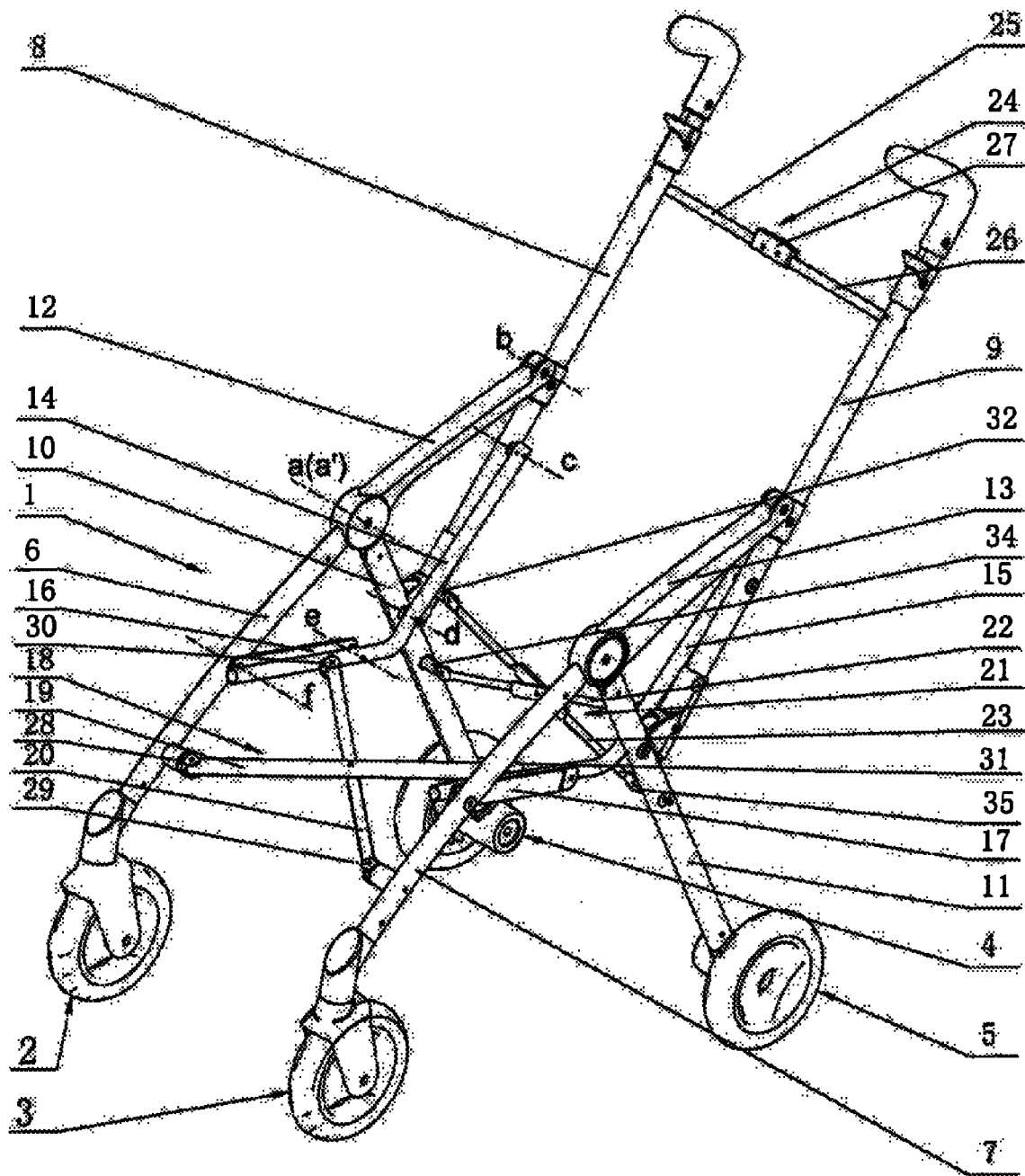
a second swing rod (15), the back section of which is rotatably connected to said second push rod (9), and, the approximate central section of which is rotatably connected to said second rear wheel bracket (11);

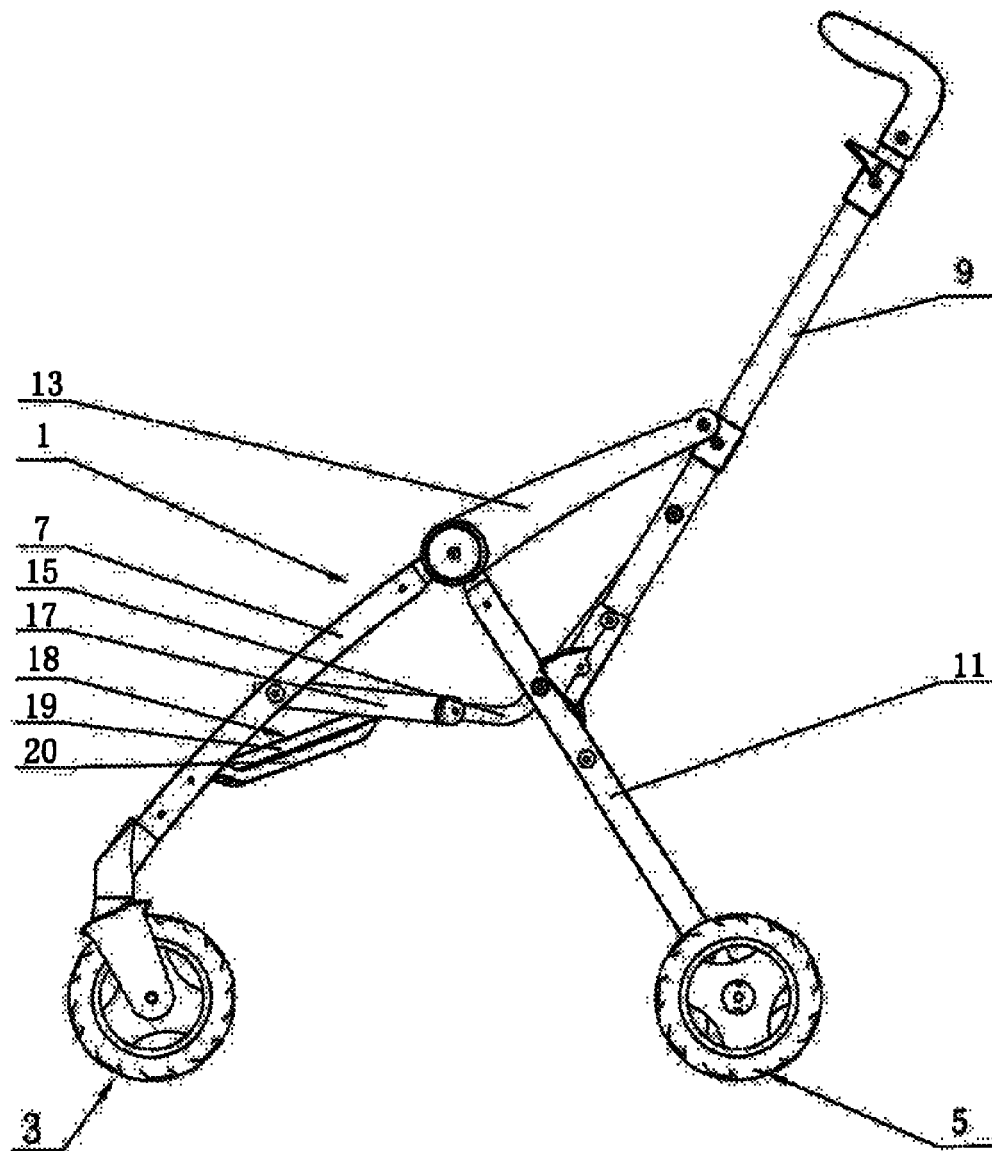
a first connecting rod (16), the front end of which is rotatably connected to said first front wheel bracket (6), and, the back end of which is rotatably connected to said first swing rod (14);

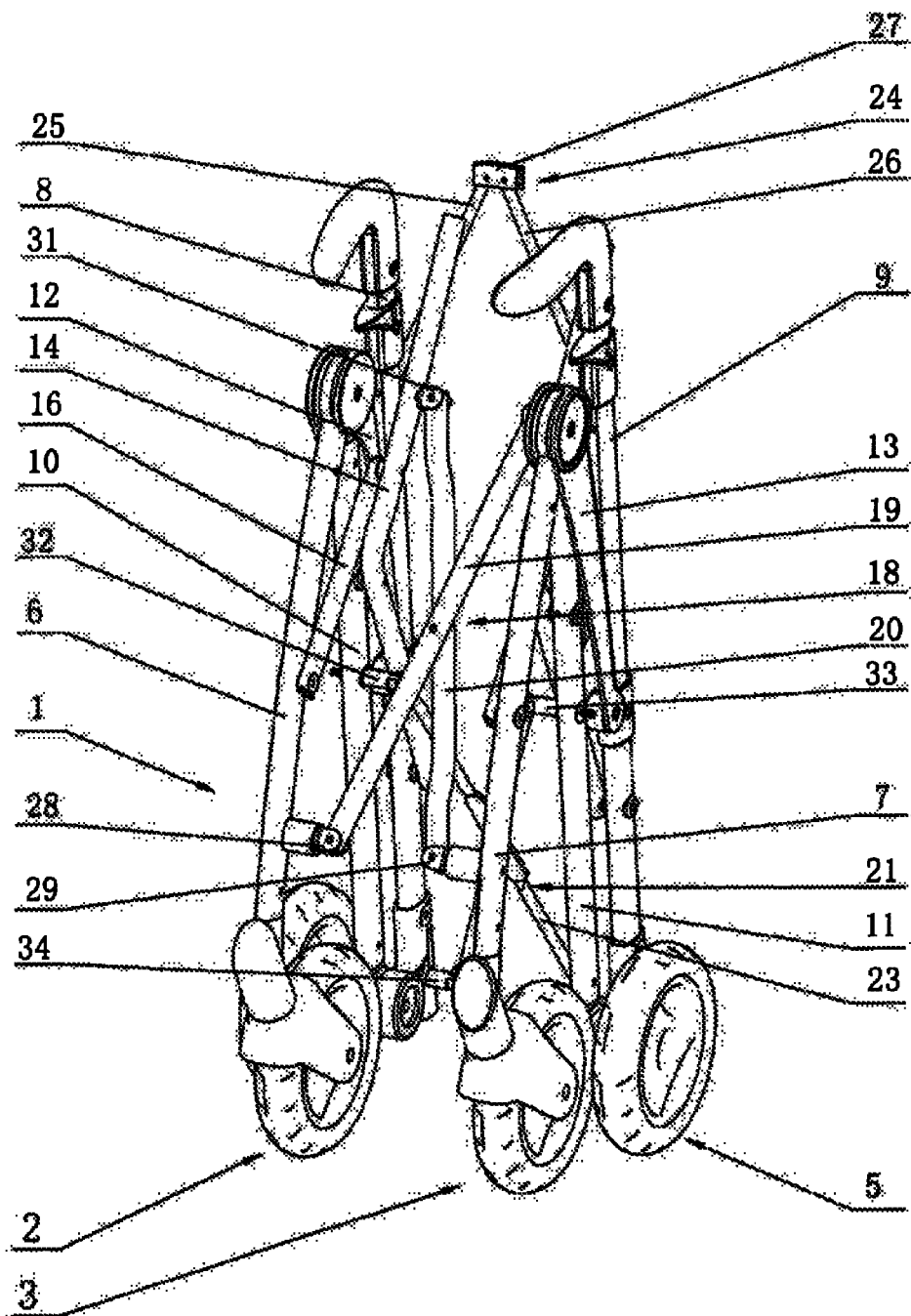
a second connecting rod (17), the front end of which is rotatably connected to said second front wheel bracket (7), and, the back end of which is rotatably connected to said second swing rod (15);

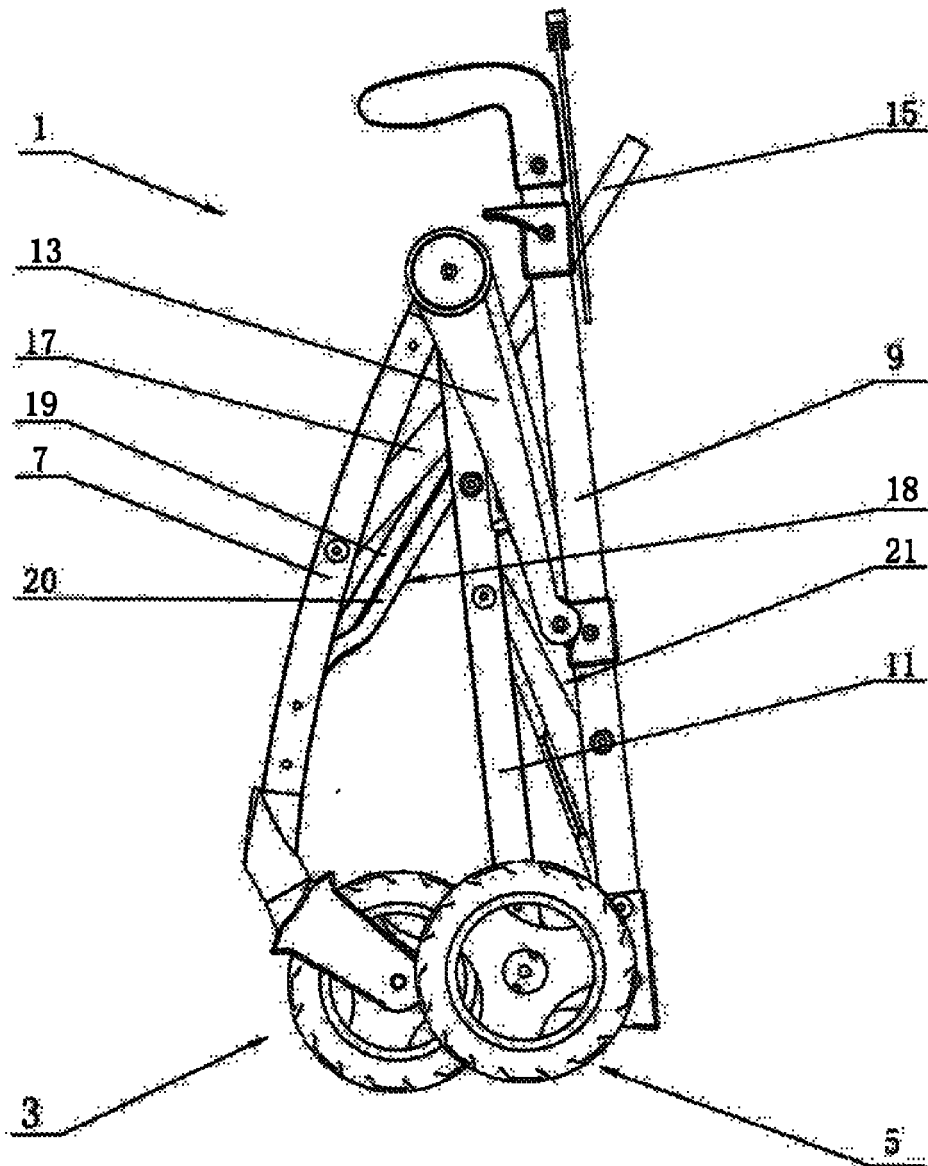
a foldable front supporting frame (18) for reducing the lateral dimension of said buggy frame (1), comprising a first supporting rod (19) and a second supporting rod (20) that intersect and rotatably connect with each other at the intersection joint, one end of said first supporting rod (19) being rotatably arranged to the lower section of said first front wheel bracket (6) through a first

- adapter (28), the other to said second swing rod (15) or said second connecting rod (17) through a fourth adapter (31); one end of said second supporting rod (20) being rotatably arranged to said second front wheel bracket (7) through a second adapter (29), the other to said first swing rod (14) or said first connecting rod (16) through a third adapter (30);
 a foldable rear supporting frame (21) for reducing the lateral dimension of said buggy frame (1), which could either be disposed between said first rear wheel bracket (10), said second rear wheel bracket (11), said first push rod (8), and said second push rod (9), or be disposed between said first rear wheel bracket (10), said second rear wheel bracket (11), said first swing rod (14), and said second swing rod (15), or simply between said first rear wheel bracket (10) and said second rear wheel bracket (11).
2. The baby buggy as claimed in claim 1, wherein, a foldable cross piece (24) for reducing the lateral dimension of the buggy frame (1) is disposed between the first push rod (8) and the second push rod (9), one outer end of the cross piece (24) being rotatably connected to the upper section of the first push rod (8), the other end to the upper section of the second push rod (9).
 3. The baby buggy as claimed in claim 1, wherein, the rear supporting frame (21) comprises a third supporting rod (22) and a fourth supporting rod (23) that intersect and rotatably connect with each other at the intersection joint, one end of said third supporting rod (22) being rotatably arranged to the first rear wheel bracket (10) through a seventh adapter (34), the other to the second swing rod (15) or the lower section of the second push rod (9) through a sixth adapter (33); one end of said fourth supporting rod (23) being rotatably arranged to the second rear wheel bracket (11) through an eighth adapter (35), the other to the first swing rod (8) or the lower section of the first push rod (14) through a fifth adapter (32).
 4. The baby buggy as claimed in claim 3, wherein one end of the third supporting rod (22) is rotatably connected to the approximate central section of first rear wheel bracket (10), with one end of the fourth supporting rod (23) being rotatably connected to the approximate central section of second rear wheel bracket (11).
 5. The baby buggy as claimed in claim 1, wherein the rotary connection joint of the first connecting rod (16) and the first front wheel bracket (6) is disposed above the rotary arrangement joint of the first supporting rod (19) and the first front wheel bracket (6), with the rotary connection joint of the second connecting rod (17) and the second front wheel bracket (7) being disposed above the rotary arrangement joint of the second supporting rod (20) and the second front wheel bracket (7).
 6. The baby buggy as claimed in claim 1, wherein, the first swing rod (14) extends forwards from the rotary connection joint of the first swing rod (14) and the first connecting rod (16) forming a first seat rod, with the second swing rod (15) extending forwards from the rotary connection joint of the second swing rod (15) and the second connecting rod (17) forming a second seat rod.
 7. The baby buggy as claimed in claim 1, wherein, the rotary connection joint of the first connecting rod (16) and the first swing rod (14) is positioned to a location that lies between the rotary arrangement joint of the second supporting rod (20) and the first swing rod (14) and the rotary connection joint of the first rear wheel bracket (10) and the first swing rod (14), with the rotary connection joint of the second connecting rod (17) and the second swing rod (15) being positioned to a location that lies between the rotary arrangement joint of the first supporting rod (19) and the second swing rod (15) and the rotary connection joint of the second rear wheel bracket (11) and the second swing rod (15).
 8. The baby buggy as claimed in claim 1, wherein, the rotary connection joint of the first rear wheel bracket (10) and the first swing rod (14) is positioned to a location that lies between the rotary connection joint of the first connecting rod (16) and the first swing rod (14) and that of the first push rod (8) and the first swing rod (14), with the rotary connection joint of the second rear wheel bracket (11) and the second swing rod (15) being positioned to a location that lies between the rotary connection joint of the second connecting rod (17) and the second swing rod (15) and that of the second push rod (9) and the second swing rod (15).
 9. The baby buggy as claimed in claim 1, wherein, the front end of the first connecting rod (16) is rotatably connected to the approximate central section of the first front wheel bracket (6), with the front end of the second connecting rod (17) being rotatably connected to the approximate central section of the second front wheel bracket (7).
 10. The baby buggy as claimed in claim 1, wherein, the axis a is coincide with the axis a'.









INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2008/000925

A. CLASSIFICATION OF SUBJECT MATTER

B62B 7/06 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC:B62B,A47D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC,WPI,PAJ,CNPAT bracket+,frame+,lever?,bar?,fold+,collaps+,pushchair, push
chair,stroller,buggy,carriage,handcart

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	CN 101284542 A (GOODBABY CHILD PRODUCTS CO., LTD.) 15 Oct. 2008 (15.10.2008) , see the embodiment shown in figures 1-4	1-10
A	CN 1136910 A(YASUMIDORI CO LTD)04 Dec. 1996(04.12.1996), see the whole document	1-10
A	JP 2005-247218 A (COMBI CO) 15 Sep. 2005 (15.09.2005) , see the whole document	1-10

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Date of the actual completion of the international search
20 Oct. 2008 (20.10.2008)

Date of mailing of the international search report
06 Nov. 2008 (06.11.2008)

Name and mailing address of the ISA/CN
The State Intellectual Property Office, the P.R.China
6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China
100088
Facsimile No. 86-10-62019451

Authorized officer
YU, Xiaohuan
Telephone No. (86-10)62085430

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2008/000925

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 2418075 Y (HAOHAIZI GROUP CO) 07 Feb. 2001 (07.02.2001), see the whole document	1-10
A	CN 2623558 Y (ZHONGSHAN CITY LONGCHENG HOUSE) 07 Jul. 2004 (07.07.2004), see the whole document	1-10

Form PCT/ISA/210 (continuation of second sheet) (April 2007)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2008/000925

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 101284542 A	15.10.2008	None	
CN 1136910 A	04.12.1996	EP 0719693 A2	03.07.1996
		JP 9-48352 A	18.02.1997
JP 2005-247218 A	15.09.2005	None	
CN 2418075 Y	07.02.2001	WO 0179051 A1	25.10.2001
		AU 6201401 A	30.10.2001
CN 2623558 Y	07.07.2004	None	

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